

JD



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,517	11/05/2003	Makoto Ohtake	NS-US035109	5920
22919	7590	04/01/2005	EXAMINER	
SHINJYU GLOBAL IP COUNSELORS, LLP			TRAN, DIEM T	
1233 20TH STREET, NW, SUITE 700			ART UNIT	
WASHINGTON, DC 20036-2680			PAPER NUMBER	
			3748	
DATE MAILED: 04/01/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/700,517	Applicant(s) OHTAKE ET AL. 67	
	Examiner Diem Tran	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13 is/are rejected.
- 7) ☐ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 6-9, 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Gabe et al. (US Patent 6,802,180).

Regarding claims 1, 13, Gabe discloses an engine exhaust cleaning device comprising:
a particulate matter filter (3b) (see Figure 1) configured to collect particulate matter from exhaust gas in an exhaust passage;
a regeneration processing section (Step 12 in Figure 2) configured to execute regeneration processing that raises temperature of the particulate matter filter to remove the particulate matter collected in the particulate matter filter by combustion of the particulate matter collected in the particulate matter filter; and an idling speed raising section (step S22) configured to raise the engine idling speed when the engine idles (step S21) during the regeneration processing of the particulate matter filter by the regeneration processing section (see col. 6, lines 28-38, 50-62, col. 7, lines 6-18).

Regarding claim 3, Gabe further discloses that the idling speed raising section is further configured to raise the engine idling speed for a prescribed amount of time when the engine idles during the regeneration processing of the particulate matter filter, and after the prescribed

Art Unit: 3748

amount of time has elapsed, returns the engine idling speed to a normal idling speed value, when the engine idles during the regeneration processing of the particulate matter filter (see col. 7, lines 6-9).

Regarding claim 4, Gabe further discloses that the regeneration processing section includes an accumulated particulate quantity detecting section configured to detect the quantity of particulate matter that has accumulated within the particulate matter filter to determine regeneration timing to regenerate the particulate matter filter when an accumulated particulate quantity reaches a first prescribed quantity (see col. 6, lines 32-48).

Regarding claims 6, 11, Gabe further discloses that the regeneration processing section is further configured to end the regeneration processing of the particulate matter filter by the regeneration processing section by comparing the accumulated particulate quantity with a second prescribed quantity that is less than the first prescribed quantity (see col. 7, lines 48-56).

Regarding claims 7, 12, Gabe further discloses that the regeneration processing section is further configured to increase the temperature of the exhaust gas by adjusting a timing of a main fuel injection, a timing and quantity of a post fuel injection executed after the main fuel injection (see col. 7, lines 23-32).

Regarding claim 8, Gabe further discloses that the idling speed raising section is further configured to raise the engine idling speed for a prescribed amount of time when the engine idles during the regeneration processing of the particulate matter filter, and after the prescribed amount of time has elapsed, returns the engine idling speed to a normal idling speed value, when the engine idles during the regeneration processing of the particulate matter filter (see Figure 2, col. 7, lines 6-9).

Regarding claim 9, Gabe further discloses that the regeneration processing section includes an accumulated particulate quantity detecting section configured to detect the quantity of particulate matter that has accumulated within the particulate matter filter to determine regeneration timing to regenerate the particulate matter filter when an accumulated particulate quantity reaches a first prescribed quantity (see col. 6, lines 32-48).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabe et al. (US Patent 6,802,180) in view of Sato et al. (US Patent 4,535,588).

Regarding claims 5, 10, Gabe discloses all the claimed limitations as discussed in claims 4, 9 above; however, fails to disclose detecting an exhaust gas flow rate, and computing the accumulated particulate quantity that has accumulated in the particulate matter filter based on the filter pressure difference detected by the filter pressure difference detecting sensor and the exhaust gas flow rate. Sato teaches that it is conventional in the art, to detect an exhaust gas flow rate and compute the accumulated particulate quantity that has accumulated in the particulate matter filter based on the filter pressure difference detected by the filter pressure difference detecting sensor and the exhaust gas flow rate (see col. 5, lines 53-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the teaching of Sato, in the Gabe system, since the use thereof would have provided an accurate means for determining the regeneration timing to regenerate the trapped particulate matters in the filter.

Allowable Subject Matter

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (571) 272-4866. The examiner can normally be reached on Monday -Friday from 8:00 a.m.- 6:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the

Art Unit: 3748

Private PAIR system, contact the Electronic Business Center (EBC) at 800-786-9199 (toll-free).



Diem Tran
Patent Examiner
Art unit 3748

DT
March 28, 2005



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700